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THE UNITED STATES PATENT AND TRADEMARK OFFICE

Atty. Docket: SHVARTSMAN=1

In re Application of:	)	Conf. No.: 4450
Boris LAIKHTMAN et al	)	Art Unit: 2814
Appln. No.: 10/743,268	)	Examiner: W.S. LOUIE
Filed: December 23, 2003	)	Washington, D.C.
For: TERAHERTZ RADIATING DEVICE)	)	July 18, 2006
BASED ON SEMICONDUCTOR	)	
COUPLED QUANTUM WELLS	)	

INFORMATION DISCLOSURE STATEMENT [IDS]

Honorable Commissioner for Patents  
U.S. Patent and Trademark Office  
Customer Service Window  
Randolph Building, Mail Stop Issue Fee  
401 Dulany Street  
Alexandria, VA 22314

Sir:

This Information Disclosure Statement is submitted in accordance with 37 CFR §§1.97, 1.98, and it is requested that the information set forth in this statement and in the listed documents be considered during the pendency of the above-identified application, and any other application relying on the filing date of the above-identified application or cross-referencing it as a related application.

[X] 1. This IDS should be considered, in accordance with 37 CFR §1.97, as it is filed:

[ ] A. within three months of the filing date of the above-identified national application or within three months of the entry into the national stage of the above-identified international application.

[ ] B. before the mailing date of a first office action on the merits or before the mailing of a first Office action after the filing of a Request for Continued Examination under 37 CFR §1.114; or

☐ C. after (A) and (B) above, but before final rejection or allowance, and Applicant has made the necessary certification (box "i" below) or paid the necessary fee (box "ii" below):

☐ i. Counsel certifies that, upon information and belief, each item of information listed herein either was

☐ (a) first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS; or

☐ (b) not cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of undersigned after making reasonable inquiry, not known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this IDS.

☐ D. after (A), (B) and (C) above, but before payment of the issue fee: Applicant states as follows under 37 CFR §1.97(e) for consideration of this IDS, that, upon information and belief, each item of information listed herein either was

☐ (a) first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS; or

☐ (b) not cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the undersigned after making reasonable inquiry, not known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this IDS.

☒ 2. In accordance with 37 CFR §1.98, this IDS includes a list (e.g., form BN/SB/08A/B) of all patents, publications, or other information submitted for consideration by the office, either incorporated into this IDS or as an attachment hereto. Other than

U.S. patent(s) and/or published U.S. application(s), which 37 CFR §1.98(a)(2)(ii) does not require to be filed unless specifically required by the Office, a copy of each document listed is attached.

[X] 3. Document AS is not in the English language. In accordance with 37 CFR §1.98(a)(3), Applicant states:

[X] An English translation of each document AS (or of the pertinent portions thereof), or a copy of an English-language abstract (or claim) is enclosed.

[X] 4. No explanation of relevance is necessary for documents in the English language (see reply to Comments 67 and 68 in the preamble to the final rules; 1135 OG 13 at 20).

[X] 5. Other information being provided for the examiner's consideration follows:

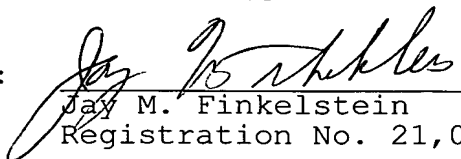
INTERNATIONAL SEARCH REPORT

6. In accordance with 37 CFR §§1.97(g) and (h), the filing of this IDS should not be construed as a representation that a search has been made or that information cited is, or is considered to be, material to patentability as defined in 37 CFR §1.56(b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of publication indicated for an item is taken from the face of the item and Applicant reserves the right to prove that the date of publication is in fact different.

Respectfully submitted,

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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 1

**Complete if Known**

Application Number	10/743,268
Filing Date	December 23, 2003
First Named Inventor	Boris LAIKHTMAN et al
Group Art Unit	2814
Examiner Name	W.S. LOUIE
Attorney Docket Number	SHVARTSMAN=1

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	AO	US-4,745,452	05-17-1988	SOLLNER	
	AP	US-5,588,015A	12-24-1996	YANG	
	AQ	US-2005/0029508 A1	02-10-2005	LAIKHTMAN et al	
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**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Number Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
	AR	EP 0 433 542 A2	06-26-1991	INTERNATIONAL BUSINESS MACHINES CORPORATION		
	AS	JP 04-042983 A	02-13-1992	FUJITSU LTD.		ABS
	AT	WO 98/40916 A1	09-17-1998	ISIS INNOVATION LIMITED et al		

Examiner  
SignatureDate  
Considered

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kind Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.